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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/626,583

07/25/2003

Ole Sibbesen

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05/19/2006

FOLEY AND LARDNER LLP  
SUITE 500  
3000 K STREET NW  
WASHINGTON, DC 20007

EXAMINER

RAO, MANJUNATH N

ART UNIT

PAPER NUMBER

1652

DATE MAILED: 05/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/626,583

Applicant(s)

SIBBESEN ET AL.

Examiner

Manjunath N. Rao, Ph.D.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 March 2006.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 10,12,13 and 44-55 is/are pending in the application.  
4a) Of the above claim(s) 10,13 and 44-47 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 12 and 48-55 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 25 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☒ Certified copies of the priority documents have been received in Application No. 09/869,155.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 8-03.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

Claims 10, 12, 13, 44-55 are currently pending and are present for examination.

***Election/Restrictions***

Applicant's election with traverse of Group II, Claims 12, 49, 55 in Paper filed on 3-8-06 is acknowledged. Applicants traverse based on the argument that the restriction requirement should be set aside as the claims relate to a single inventive concept i.e., the use of a variant polypeptide having SEQ ID NO:5 in the manufacture of a foodstuff, e.g., a bakery product or dough. This is not found persuasive because not all claims are drawn to a product comprising the enzyme and a method of making/using said product. According to the Examiner, it is only the dough that comprises the active enzyme. Examiner disagrees with the applicant that claims relate to a single inventive concept because it is only the dough(product) that comprises an enzyme with activity. Examiner respectfully disagrees with applicant's argument that the bakery product also comprises the enzyme, because when once the dough is baked, it loses the active enzyme and therefore, it is no different from any other baked product. On a scientific basis, Examiner maintains that the bakery product does not continue to have the active enzyme and therefore, based on this fact alone, the argument that the claims relate to a single inventive concept is highly misplaced. However, in order to expedite the prosecution of this case, Examiner has rejoined the claims drawn to bakery product and the dough comprising the enzyme into one group. Examiner however, continues to maintain the claims drawn to methods in separate group and will rejoin them when once product claims are in condition of allowance. The restriction between claims 12, 49, 55 and 48, 50-55 is hereby withdrawn.

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The current requirement between product and method claims is still deemed proper and is therefore made FINAL.

Claims 10, 13, 44-47 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention, the requirement having been traversed in Paper filed on 3-8-06.

#### ***Priority***

Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 09/869155, filed on 10-1-01.

#### ***Drawings***

Drawings submitted in this application are accepted by the Examiner for examination purposes only.

#### ***Specification***

The disclosure is objected to because of the following informalities: The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code (for example see page 7). Applicant is required to delete all such embedded hyperlink and/or other form of browser-executable code wherever they occur in the specification. See MPEP § 608.01. Appropriate correction is required.

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Examiner notes that applicants have not updated the relationship of the instant application (on the first line of the specification) to its parent application that has been abandoned. Examiner urges applicants to amend said information by providing said information in response to this Office action.

### ***Claim Objections***

Claim 12 is objected to because of the following informalities: Claim 12 recites the phrase “making same” which appears to be grammatically improper. Appropriate correction is required.

Claim 48 is objected to because of the following informalities: Claim 48 depends from a non-elected claim. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 12 recites “a bakery product or a substance for making the same comprising or prepared from an amino acid sequence presented as SEQ ID NO:5”. This entire phrase is highly confusing to the Examiner. First of all Examiner questions whether the bakery product can really comprise the enzyme with SEQ ID NO:5. While the dough used for making said product may comprise, the bakery product made by baking the dough at very high

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temperatures loosens the enzyme due to thermal degradation and the enzyme loses its integrity and function. Therefore, the phrase, a bakery product comprising the enzyme makes no scientific sense. Next, the metes and bounds of the phrase “bakery product” and “a substance” are not clear to the Examiner. It is not clear as to what exactly is a bakery product. Are bakery products those sold simply in a bakery or whether bakery products are those subjected to baking. On similar lines it is also not clear as to what types of “substances” are encompassed by the above phrase which makes it impossible for the Examiner to do a meaningful search. It is also not clear whether the term in parentheses “ e.g. dough” is a limitation for the substance or not. Examiner urges applicants to either delete the term “substance” or the term “dough” in order to remove ambiguity.

Claim 12 also recites the phrase “substance (e.g. dough) for making the same comprising or prepared from an amino acid sequence.”. It is not clear to the Examiner as to how the dough was prepared from the amino acid sequence presented as SEQ ID NO:5. The entire phrase makes no proper sense. It is also not clear to the examiner whether the phrase “represented by” means that the amino acid sequence SEQ ID NO:5 is only a representative sequence or whether the enzyme actually comprises SEQ ID NO:5. Examiner urges applicants not to use the phrase “represented by”.

Claim 51 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 51 recites the phrase “said bacterial xylanase is a *Bacillus subtilis* strain”.

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This phrase does not make any scientific sense, because a bacterial enzyme cannot be at the same a bacterial strain. Examiner requests clarification.

Claim 52 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 51 recites the phrase “substantially free of glucanase enzymes”. Here again the metes and bounds of the phrase are not clear to the Examiner. It is not clear as to what levels of contamination by glucanase enzymes can the xylanase enzyme have to be considered as “substantially free of glucanase enzymes”. A perusal of the specification did not provide the Examiner a specific definition for the above phrase.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 12 is rejected under 35 U.S.C. 102(b) as being anticipated by Paice et al. ( Accession No. P18429, UnitProt Database, 1990 and Arch. Microbiol., 1986, Vol. 144:201-206 cited in the IDS) or Wolf et al. (Accession No. I40569, PIR Database, 1996 and Microbiology, 1995, Vol. 414:281-290, cited in the IDS). This rejection is based upon the public availability of printed publications. Claim 12 of the instant application is drawn to a bakery product or a substance for making the same comprising the amino acid sequence SEQ ID NO:5, which is a xylanase enzyme. The reference of Paice et al. or Wolf et al. disclose a substance, i.e., a buffer which

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could be used in the making of a bakery product comprising the amino acid sequence SEQ ID NO:5 having xylanase activity. See enclosed sequence alignments and Figure 2 in Paice et al. Thus Paice et al. or Wolf et al. anticipate claim 12 of this application as written.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 48-55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paice et al. or Wolf et al. and Gottschalk et al. (US 5306,633 cited in the IDS). Claims 48-55 are drawn to a dough comprising the polypeptide with an amino acid sequence comprising SEQ ID NO:5 and a bakery product prepared from using said dough.

Paice et al. and Wolf et al. teach a xylanase that is 100% identical to amino acid sequence SEQ ID NO:5. However, said reference do not disclose a dough comprising said enzyme or a bakery product prepared from such a dough.

Gottschalk et al. that it is highly desirable to obtain baked products with high baked volume and in order to attain high baked volume baking additives are added. The reference teaches that baking additives include emulsifiers, pentosanases(xylanases) and proteases etc. The reference teaches that so called "residual fractions" and insoluble pentosans in the flour increases water absorption and reduce the baking volume of the baked good. In order to improve baking volume, the reference teaches that the baking industry has used pentosanases or



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xylanases in order to increase baking volume in baked goods and that there is a conscientious effort in the art to search for an highly efficient enzyme which can reduce pentosans and increase baking volume.

Combining the teachings from the above references, it would have been obvious to one of ordinary skill in the art to use the xylanase enzyme taught by Wolf et al. or Paice et al. in a dough used for making a baked product which has a good baked volume. One of ordinary skill in the art would have been motivated to do so because the reference of Gottschalk et al. teach that adding xylanases to baking dough leads to an increase in the baked volume. One of ordinary skill in the art would have had a reasonable expectation of success since Paice et al. and Wolf et al. provide a purified and recombinant enzyme ready for use.

Therefore, the above references render claims 48-55 *prima facie* obvious to one of ordinary skill in the art.

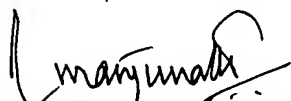
### ***Conclusion***

None of the claims are allowable.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Manjunath N. Rao, Ph.D. whose telephone number is 571-272-0939. The Examiner can normally be reached on 7.00 a.m. to 3.30 p.m. If attempts to reach the examiner by telephone are unsuccessful, the Examiner's supervisor, Ponnathapura Achutamurthy can be reached on 571-272-0928. The fax phone numbers for the organization where this application or proceeding is assigned is 571-273-8300 for regular communications and for After Final communications. Any inquiry of a general nature or relating to the status of

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this application or proceeding should be directed to the receptionist whose telephone number is  
571-272-1600.

A handwritten signature in black ink, appearing to read "Manjunath N. Rao". The signature is stylized with a large initial "M" and a long horizontal stroke extending to the right.

Manjunath N. Rao, Ph.D.

Primary Examiner

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May 12, 2006

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